

REMARKS

The Office Action dated October 30, 2006, has been received and carefully noted. The above amendments and the following remarks are being submitted as a full and complete response thereto. Claims 1-2, 5-6, 10-11 and 18-19 are pending in this application, and claims 7-9 and 12-17 are withdrawn. By this Amendment, claims 1 and 18-19 are amended. No new matter has been added. Reconsideration of the application is respectfully requested.

The Office Action rejects claims 1-2, 5-6, 10-11 and 18-19 under 35 U.S.C. § 112, second paragraph. Independent claims 1, 18 and 19 are amended to overcome the rejection and now fulfill the requirements of 35 U.S.C. § 112, second paragraph. Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. § 112, second paragraph, is respectfully requested.

The Office Action rejects claims 1-2, 5-6, 10-11 and 18-19 under 35 U.S.C. § 103(a) over Chen et al. (U.S. Patent No. 5,691,876) in view of Hisamoto et al. (U.S. Patent No. 6,027,629). The rejection is respectfully traversed.

In particular, none of the applied references, alone or in combination, disclose or suggest an electrostatic chucking device having a laminated structure which is formed by sequentially laminating a first insulation layer, an electrode layer and a second insulation layer on an aluminum alloy metal substrate, and an adhesion between the aluminum alloy metal substrate and the first insulation layer is achieved by low-temperature compression bonding at a temperature of 100 to 250°C, as recited in independent claim 1.

Chen teaches polymeric dielectric systems that do not require an adhesive to adhere to a substrate, and a thermoplastic polyimide is placed in contact with the substrate to which it is to bond, and heat and pressure are applied to cause the polyimide to bond to the substrate (Abstract). Moreover, Chen teaches a Kapton KJ polyimide film with a glass transition temperature at 220°C (column 6, lines 65-66), and Chen specifically teaches that a second transition temperature functions as a process window for effective bonding of the Kapton KJ to a metallic substrate, the second transition temperature being in the range 280° to 350°, and bonding is accomplished above 280°C and DuPont recommends bonding at 350°C (column 7, lines 4-13). Furthermore, Chen specifically teaches that the Kapton KJ should be bonded to “composite including copper, steel, ceramics, and films” (column 7, lines 14-16).

Furthermore, although the Patent Office admits that Chen fails to teach an aluminum alloy substrate (Office Action, page 4, lines 7-8), the Patent Office argues that it would have been obvious to combine the teachings of Chen with the teachings of Hisamoto, which teaches an aluminum alloy substrate to be used in a vacuum chamber, in order to arrive at the subject matter of independent claim 1. However, the Patent Office is mistaken for the following reasons.

Chen specifically teaches bonding the substrate to one of the polyimide films at a temperature above 280°C, and preferably a temperature of 350°C. Accordingly, the combination of the teachings of Chen and Hisamoto would result in bonding Chen's polyimide films to Hisamoto's aluminum substrate at a temperature of 350°C. However, the properties of aluminum would be severely altered at such a high temperature of 350°C in light of the fact that the melting temperature of aluminum is

at around 660°C, while a typical melting temperature of a stainless steel alloy, which is recommended by Chen, is at above 1500°C, and a stainless steel substrate is able to withstand a bonding temperature of 350°C without major changes in its properties, while such a temperature would severely alter the properties of an aluminum substrate.

Moreover, the claimed temperature of “low temperature compression bonding” is between 100° and 200°C, while Chen specifically teaches a bonding temperature at above 280°C, and prefers 350°C (column 7, lines 12-13). Accordingly, the specific teachings of Chen teach away from the claimed temperature of low temperature compression bonding of 100° to 200°C in independent claim 1. The claimed device, bonded at a temperature of 100° to 200°C, is patentably distinct from a device that performs bonding at a temperature of 280°C to 350°C.

Finally, the Patent Office alleges that “it would have been obvious to one of ordinary skill in the art to have employed a substrate made of aluminum alloy in lieu of stainless steel and would have given the same effects.” (Office Action, page 4, lines 11-13). Applicants respectfully disagree. MPEP § 2143.01(III) indicates that “the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination” (emphasis in original). In the same section, the MPEP also indicates that “although a prior device may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the

reference to do so" (emphasis added). Thus, the MPEP clearly indicates that there must be a motivation in either Chen or Hisamoto for the desirability of combining their teachings. In other words, either Chen should suggest the desirability of using an aluminum substrate, or Hisamoto should suggest the desirability of using the disclosed aluminum alloy substrate for use in an electrostatic chuck application. However, such a motivation is nonexistent in either one of the references. As indicated above, there would be no desirability in Chen in using an aluminum substrate in view of the high temperature of bonding compared to aluminum's low melting point. Thus, because there would be no motivation or suggestion in either Chen or Hisamoto to combine their respective teachings, a combination of Chen and Hisamoto is improper.

For at least these reasons, the combination of Chen and Hisamoto would not arrive at the subject matter of independent claim 1. Thus, independent claim 1, and its dependent claims, are patentable over the applied references. Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is respectfully requested. Should the Examiner determine that any further action is necessary to place this application into better form, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing Attorney Dkt. No. 101160-00026.**

Respectfully submitted,



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